

IN THE CLAIMS:

1. A method of forming a conductive structure in an integrated circuit, comprising the steps of:
  - forming a dielectric layer over a semiconductor body;
  - forming a hole in said dielectric layer;
  - forming a conductive liner in said hole;
  - annealing said conductive liner;
  - treating said conductive liner with hydrogen;
  - forming a conductive barrier over said conductive liner; and
  - filling said hole with a conductive metal.
2. The method of claim 1, wherein said treating step occurs after said step of forming a hole and before said filling step.
3. The method of claim 1, wherein said annealing step and said treating step are performed simultaneously.
4. The method of claim 1, wherein said treating step comprises a plasma treatment in a hydrogen containing atmosphere.
5. The method of claim 4, wherein said hydrogen containing atmosphere comprises pure hydrogen.
6. The method of claim 4, wherein said hydrogen containing atmosphere comprises hydrogen mixed with a carrier gas.
7. The method of claim 4, wherein said hydrogen containing atmosphere comprises ammonia.

8. The method of claim 1, further comprising the step of repeating said treating step prior to said filling step.

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9. A method for forming a contact in an integrated circuit, comprising the steps of:

forming a dielectric layer over a semiconductor body;

etching a contact hole extending through said dielectric layer;

depositing titanium over said dielectric layer, including on exposed surfaces within said contact hole;

annealing said titanium;

treating said titanium with hydrogen;

depositing TiN over said titanium; and

filling said contact hole with tungsten.

10. The method of claim 9, wherein said annealing step and said treating step are performed simultaneously.

11. The method of claim 9, wherein said treating step is performed after said etching step and before said filling step.

12. The method of claim 9, wherein said treating step comprises a plasma treatment in a hydrogen containing atmosphere.

13. The method of claim 12, wherein said hydrogen containing atmosphere comprises pure hydrogen.

14. The method of claim 12, wherein said hydrogen containing atmosphere comprises hydrogen mixed with a carrier gas.

15. The method of claim 12, wherein said hydrogen containing atmosphere comprises ammonia.

16. The method of claim 9, further comprising the step of repeating said treating step prior to said filling step.

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